

Notice of Allowability

Application No.

10/535,015

Examiner

Quyen P. Leung

Applicant(s)

KUWAHARA ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 8-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 20050810
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

/Quyen Leung/
Quyen Leung
Primary Patent Examiner
Group Art Unit 2874

EXAMINER'S AMENDMENT

Claims 9-14 are allowed.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

- Claims 9-14 depend upon canceled claim 1. They have been amended to depend upon claim 8.

The following is an examiner's statement of reasons for allowance:

The cited prior art do not teach or fairly suggest an optical interconnection sheet comprising: (a) **at least one channel in which at least one optical fiber or an optical fiber ribbon cable can be inserted for use**; and (b) a layered structure for maintaining the at least one channel substantially in a two-dimensional plane by holding the channel in such a manner that **both ends of the channel at least reach respective edges of the optical interconnection sheet**.

The closest cited prior art Bonanni et al (US 5,204,925 or JP 07-281052) teaches an optical interconnection device that can easily form an optical connection between circuit packages and can easily replace a defective optical fiber with a new optical fiber. See figures 1-7.

However, Bonanni et al fails to teach the emboldened feature above that allows for easily replacing a defective optical fiber with a new optical fiber, by removing the entire defective fiber and then inserting a new one into the claimed channel. Note Bonanni et al's Figure 5 and col. 3 lines 22-40 which teaches how if fiber (20) were found to be defective a short piece of the cover layer (25) at the end of the tabs (12) is cut away exposing the fiber ends and the ends of defective fiber cut off. A new adhesive coated fiber (50) is placed on the top layer (25) overlying essentially the same position as the defective fiber (20).

Applicant's claimed invention, especially the emboldened features above allows the following advantageous benefits (see applicant's specification, pages 6-7): "For example, because the optical fiber is inserted in the channel, the inserted optical fiber can be removed if necessary. As a result, the optical fiber extending from the optical interconnection sheet need not be provided with an extra length. Also, because a defective fiber can be removed and a new optical fiber inserted, repairability in the fiber end processing improves, increasing the fabrication yield of the optical interconnection sheet..."

Other related art include: Dalgoutte (4,078,910) teaches glass sleeve fiber joining and suggests protecting the joint with heat shrink tubing fitted over the sleeve. Xu (4,923,268) teaches fiber optic coupler including heat shrinkable tubing. Dekeyser et al (5,066,095) teaches jointing box for optical fiber cables. Iapicco (5,185,840) teaches a branching method for a multifiber fiber optic cable. Sasaki et al (6,416,232) teaches device for optical interconnection. Sukegawa et

al (USP 6,567,603) which teaches an optical interconnection apparatus and process for fabrication of the same. Kawase (6,839,475) teaches optical connection component.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quyen P. Leung whose telephone number is (571) 272-8188. The examiner can normally be reached on normally M-F, 6:15 am - 2:45 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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qpl